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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,380	04/24/2001	Albert E. Seaver	56433USA1A.002	5859

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EXAMINER	
KOCH, GEORGE R	

ART UNIT	PAPER NUMBER
1734	15

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/841,380	SEAVER ET AL.	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-59* is/are pending in the application.

4a) Of the above claim(s) *1-32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5-19-2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 33 is rejected under 35 U.S.C. 102(e) as being anticipated by Hess.

Hess discloses an electrostatic spray head (Figure 3) that transmits a liquid coating. Hess also discloses that it is known to use transfer rollers as intermediaries in the transmission (column 6, lines 42-48). Such a transfer surface would be capable of

being relatively conductive if used with an electrostatic spray head. Such a structure would be capable of transferring as claimed.

As to claim 34, such a transfer surface would circulate or rotate.

As to claim 35, the surface is called a roller, i.e., a drum.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 33-35, 37, 38, 43, 51, 52, 54, and 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess and Nakajima et al (US Patent 4,847,110).

Hess discloses an electrostatic spray head (Figure 3) that transmits a liquid coating. Hess also discloses that it is known to use transfer rollers as intermediaries in the transmission (column 6, lines 42-48). Such a transfer surface would be capable of being relatively conductive if used with an electrostatic spray head. Hess is silent as how to utilize the spray head with the transfer rollers.

Nakajima discloses a conductive transfer surface (item 20) which transfers a portion of the coating to a substrate (see figure 6, and structures 22 and 23), and an electrostatic spray head (item 21) that is applying the powder coating composition to the conductive transfer surface (see also column 11, lines 7-24). One in the art would appreciate that powder coatings and liquid coatings are very similar, and indeed, Hess

does indicate so (column 6, lines 36-43). Thus, one would look to Nakajima to implement the structures disclosed but not organized in Hess, and Nakajima's organization allows for metering of the coating composition. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the structural organization as disclosed in Nakajima for the elements of Hess as such an organization would allow for transfer and metering of the coating spray.

Hess and Nakajima are considered capable of operating such that following startup of the apparatus, and one or more circulations of the conductive transfer surface, the target region has a continuous coating of the liquid coating composition before new applied drops land.

As to claims 34 and 35, Hess and Nakajima discloses that the transfer surface rotates (column 11, lines 24-32), and that the surface is a cylinder (i.e., a drum or roller).

As to claim 37, Nakajima as applied discloses that the transfer surface is grounded (column 11, lines 17-20).

As to claim 38, the electrostatic spray head of Hess and Nakajima is capable of producing a line of charged droplets.

As to claim 43, the relationship of rolls 20 and 24 is functionally a nip roll since the substrate passes between these two rollers.

As to claims 51, 52, 54, 56, and 57, Hess and Nakajima's apparatus is capable of acting on the substrates claimed. As to claim 51, Hess and Nakajima can use an insulative substrate, which further as to claim 52 can be made of plastic. As to claim 54, Hess and Nakajima can be used with a porous substrate. As to claim 56, Hess and

Nakajima is capable of being used with a woven or unwoven web. As to claim 57, Hess and Nakajima is capable of being used with a substrate that is an electronic film, component, or precursor thereof.

As to claim 55, Hess and Nakajima is capable of using a liquid for coating wherein the liquid for coating does not substantially penetrate the porous substrate.

As to claim 58, Hess and Nakajima discloses that the conductive transfer surface is grounded and is capable of being used with coatings and substrates such that substantially none of the charges generated by the electrostatic spraying device are transferred to the substrate.

As to claim 59, the apparatus of Hess and Nakajima appears capable of transferring drops in the sizes claimed.

6. Claims 36, 42 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess andNakajima as applied to claims 33-35 above, and further in view of Booth ("Evolution of Coating", from applicant's IDS, Paper #2, 9-10-2001).

As to claim 36, Nakajima does not disclose using a belt as the transfer surface.

Booth discloses using a belt and multiple transfer drums to transfer the coating liquid to the substrate (see page 37 to page 39, and Figures 40 and 41). Booth discloses that the steel belt is particularly well adapted to applying coatings to porous materials wherein a minimal "combining" pressure is needed (page 38, lines 7-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention with a desire to coat porous substrates to have added a belt for the transfer

mechanism as suggested by Booth in the overall system of Nakajima in order to reduce damage to the substrate.

As to claims 42 and 53, Booth discloses the use of multiple transfer surfaces (such as in Figures 30, 31, 32, 33 and 34, see pages 30-33) to meter the coating. Booth discloses that such multiple transfer surfaces are useful for maintaining coating weight control and uniformity (see page 30, lines 12-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to used a plurality of circulating transfer surfaces wherein the coating is transferred from a first surface to a second transfer surface as disclosed in Booth in order to maintain coating weight control and uniformity.

7. Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess and Nakajima as applied to claim 33 above, and further in view of Neidich (US Patent 2,833,666).

As to claim 38, Nakajima, while disclosing the use of a single electrostatic spray head to produce a line of charge droplets, does not disclose the alternative embodiment of a series of spray heads ganged or grouped together to apply the coating to the transfer substrate.

Neidich discloses using multiple applicator nozzles, which are not electrostatic spray nozzle applying to a transfer surface, but rather directly apply the coating to the moving substrate. One in the art would appreciate that the use of multiple applicator nozzles allows for the treatment of a wider substrate, thus improving the efficiency of

the application operation, and would appreciate that such a multiple nozzle setup plus transfer roller as in Hess/Nakajima would allow for the coating of wider substrates. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized multiple applicator nozzles such as in Neidich in the overall apparatus of Nakajima in order to improve efficiency and improve production speed.

As to claim 39, Hess, Nakajima and Neidich as applied in claim 38 above are capable of applying one or more coating compositions to one or more lanes.

As to claim 40, Hess, Nakajima and Neidich as applied in claim 38 above are capable of applying a plurality of compositions to one lanes, by placing both compositions in the spray head.

As to claim 41, Hess, Nakajima and Neidich as applied in claim 38 above are capable of applying coating compositions to a plurality of lanes.

8. Claims 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess and Nakajima as applied to claim 33 above, and further in view of Hall (GB 1,278,099).

Hess and Nakajima do not disclose multiple pick and place devices.

Hall discloses multiple pick and place devices, and further discloses that a minimum of five rollers, sometimes two rollers, be used per side coated (column 1, lines 41-46). Hall discloses that such devices smooth the coating, thus improving the coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such rollers in order to improve the coating.

Response to Arguments

9. Applicant's arguments filed 5-19-2003 have been fully considered but they are not persuasive.

10. In response to applicant's argument that the startup operation and continuous use limitations differentiates from the prior art, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

11. Similarly, with regard to claims that refer to whether the liquid composition is applied to a woven or nonwoven web, or whether it substantially penetrates the web (see page 11, paper 14), these limitations are also taken to be intended use and the paragraph immediately above applies.

12. Furthermore, with regard to argument that Nakajima is inappropriate due to the scraper, it is noted that first, the argument depends on intended use limitations, and second, that Nakajima is not relied upon for the scraper, but rather, for the functioning of the sprayer.

13. In response to applicant's argument that there is no suggestion to combine the references (especially with regard to using a belt as a transfer surface as in page 12,

paper #14), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Booth provides motivation for using such a belt.

14. Similarly, as to the use of multiple transfer surfaces, Booth provides motivation for doing such.

15. Furthermore, as to the arguments with regard to the rejections of claims 38-41 and 44-50, the references, including Hess, disclose using liquid composition.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

George R. Koch III
June 15, 2003

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700